지역관리자 양성 교육 : 8 월 도요물떼새 계수 및 동정 교육

□ 기간/장소 : 2021 년 8 월 9 ~ 13 일, 화성드림파크 3 층 다목적회의실 및 화성습지 일원

□ 목표

- 람사르 서식지의 '현명한 이용'의 일환으로서 도요물떼새 및 계수에 대한 이해 고양
- 현장활동 기술 증진
- 도요물떼새 동정과 계수 실력 증진

□ 준비물

- 1 인당 필드스코프, 거치대, 쌍안경 1 개, 필기구 및 공책
- 4 인당 1 차량
- 야외활동에 좋은 차림 : 자연에 가까운 색 의상, 햇빛을 가리기 좋은 복장

□ 일정 : 1~3 일차

날짜	주제	오전(10:00-12:00)	식사/이동	오후(13:45-16:45)
8/9	도요물떼새를 왜 세는가	실내활동 : 습지의 현명한 이용 - 과정소개/ 참가자 소개 - 강의 - 토론 및 참가자 활동	12:00 – 13:45	현장활동 - 조류, 환경 관찰, 기록
8/10	도요물떼새 동정방법	실내활동 : 도요물떼새 동정 - 강의 - 참가자 활동 : 새 묘사	12:00 – 13:45	현장활동 - 관찰한 내용 기록, 종 목록 작성
8/11	큰 군집을 세는 법과 보기힘든 종을 찾는 법	실내활동 : 계수 - 강의 - 참가자 활동 및 토론	12:00 – 13:45	현장활동 - 화성호, 매향리갯벌 - 동정과 계수

□ 일정 : 4~5 일차

날짜	주제	오전(8:00-11:30)	식사/이동	오후(13:00-15:30)
8/12	도요물떼새 행동 읽기	현장활동(8:00-11:30) - 계수 - 도요물떼새 행동 기록	11:30 – 13:30	실내활동(13:30 – 15:30) - 강의 : 도요물떼새 및 지역관리자 - 토론 : 지역관리자의 역할, 물새계수의 의미
8/13	자료 정리와 분석	현장활동(8:00-11:00) - 화성호, 매향리 갯벌 - 도요물떼새 계수, 기록	11:00 – 13:00	실내활동(13:00 – 15:00) - 자료 정리 - 람사르 기준대로 정리 - 토론

[별첨] 상세일정(영문)

Day 1: August 9th. "Why count shorebirds?"

Indoors: 10:00-12:00

1. Wise Use of Wetlands

(i) Introduction to the Program (5-10 minutes)

(ii) Self-introductions (5-10 minutes)

(iii) PPT Presentation by NM (1 hour, including commentary and questions directed to participants)

- Main wetland types
- Estuarine systems: distribution of substrates
- Hwaseong Wetlands FNS
- Ramsar criteria for identifying internationally important wetlands
- Waterbird families
- Shorebirds
- Basics on shorebird ecology: migration; disturbance, structural relationship with substrates
- Introduce 10 main species of shorebird
  Different life-cycles
  Energy balance: daily, annual
  Stress in shorebirds

(iv) Participant Activity (20 mins)

Resource: Images of 20+ shorebird species

Activity: participants match shorebird type to substrate/ main habitat type/ food / suggest migration strategy

(v) Feedback discussion (15-20 mins)

Lunch 12:15-13:15

- Drive to FNS

Fieldwork: 13:45-16:45

Using optics (how to set up tripod carefully etc.)

(vi) Note-taking. Recording what you see

- Making diagrams to capture distribution of shorebirds on the tidal flat and to identify points of disturbance
- Estimating numbers spread across tidal flat at low tide
- Basics of identification: structure, contrast, plumage

Drive back to Hwaseong City

Day 2: August 10th "An Approach to Shorebird Identification"

10:00-12:00

(i) PPT presentation by NM on shorebird identification (30-40 mins)

- Main shorebird families
- Understanding Structure
- Understanding Contrast
- Plumage. Plumage tracts

(ii) Activity: Describing birds (45 mins-1 hour)

(a) Ten images of shorebirds are arranged on screen, labelled 1-10. In pairs, everyone to practice describing structure, contrast, plumage;

(b) Multiple species of shorebird are shown in a single image, all numbered. One in pair describes species; other in pair identifies which species.

(c) Ten images of shorebirds are arranged on screen, labelled 1-10. One describes species; Other in pair sits with back to screen and records information. After 5 species, listener in pair turns around and matches numbers (i.e. identifies which of the birds was being described).

(d) Ten images of shorebirds are arranged on screen. One in pair sites with back to screen; other describes species. As one describes, the other in the pair draws. Then pairs swop drawings and match each drawing with the species on screen.

(e) Images are reviewed, with commentary on habitat preference: prediction of where each species might be in a wetland (image of coastal wetland, not Hwaseong Wetlands).

(iii) Feedback discussion

12:15-13:15

Lunch

13:45-16:45 Fieldwork (High Tide 8.4m at 18:01)

Fieldwork at Maehwari Tidal Flat

- In pairs, practicing describing a species seen in the telescope; other in pair, writing down key features and making simple sketches
- Making a species list of species able to identify

Day 3: August 11th "Counting Large Flocks and Finding Unusual Species"

Indoors: 10:00-12:00

(i) PPT by NM on counting (30-40 minutes)

- Timing and tides
- Thinking about which species to count first/ last
- Timing counts
- Substrates
- Mixed species' groups: some common and some less common species-pairs in Hwaseong FNS
- Roost choice
- Disturbance

Activities (20-30 minutes)

(ii) Counting: series of slides with different numbers of objects

(iii) Counting: series of slides with different numbers of birds

(iv) Slides with mixed group of species. Each pair counts: one to ID, one to scribe

(v) More PPT slides by NM on identifying species' pairs – mix of presentation and each pair describing what they see (30 minutes)

- Curlews
- Godwits
- Sand Plovers
- Stints
- Greenshanks
- Terek and Tattlers
- Small sandpipers

(vi) Feedback discussion (remaining time)

12:15-13:15 Lunch

13:45-16:45 Fieldwork

Fieldwork in central harbour and along shores of Reclamation Lake, Hwaseong FNS, then at Maehwari. Low tide (high tide at 18:37, 8.56m)

Focus on practicing identification and counting.

Day 4: August 12th "Interpreting shorebird behaviour"

Fieldwork: 08:00-11:30

Hwaseong Reclamation Lake, Main outer dyke overlooking Maehyangri Tidal Flat

(i) Pairs make repeat counts
(ii) Pairs note shorebird behaviour (if roosting, roost choice; if foraging, substrate type)

11:45-12:45 Lunch

Indoors: 13:30-15:30

(iii) Ppt by NM on Shorebird Ecological Requirements (30-40 minutes)
(iv) Discussion on shorebird conservation at the Hwaseong Wetlands: the role of a warden; the value of waterbird counts etc. (~1 hour)

Day 5: August 13th "Organising and Using Data"

Fieldwork: 08:00-11:00 (High Tide 07:32, 9.14m)

Hwaseong Reclamation Lake, Main outer dyke overlooking Maehyangri Tidal Flat

Pairs count in separate locations from each other, recording times of counts and number of birds

At 10:30, counts are then compared. Discussion held on best way to count the site.

11:15-12:15 Lunch

Drive back to Hwaseong

13:00-15:00

- Entering in data: simple explanation of excel spreadsheet data entry (15)
- Applying data to Ramsar criteria for identifying wetlands of international importance (30)
- Final questions / group discussion on what was learned, what not yet understood